

fasting dog, however, this increase is missed. Adrenalin, when injected in fairly large doses, produces a marked increase in excretion of allantoin without increase in total nitrogen. The reverse effect is observed after injection of phloridzin; the total N is increased but there is no change in allantoin. In thyroidectomized animals nucleinic acid which is fed is excreted in lessened amount. Likewise under the influence of iodothylin, there is a diminished excretion of allantoin which coincides with the marked protein destruction. Administration of paraglandol (parathyroid gland substance) has had no certain effect on purin metabolism. Purin bases fed to fasting animals are apparently partly retained. An excess of fluid causes a marked rise in allantoin excretion.

Studies of the Blood in Variola and Vaccinia.—M. SCHATZMANN (*Ztschr. f. klin. Med.*, 1914, lxxx, 333) has made careful studies of the blood in seven cases of variola, two of which were fatal, and also in vaccinia. In the incubation stage of variola, the author finds a polynuclear leukocytosis. As the eruption begins to appear and as long as it remains papular, the white count is normal or subnormal. With the appearance of the vesicular stage, the white count again increases, leading to a more or less marked leukocytosis, due chiefly to increase in lymphocytes. A relative lymphocytosis persists for weeks. A marked increase of the polynuclear neutrophile cells indicates a complication. During convalescence, the eosinophiles which never completely disappear increase in number. In severe cases Türk's irritation forms, myelocytes and erythroblasts are found. A considerable number of myelocytes and erythroblasts with only a slight leukocytosis is an unfavorable sign. The persistent lymphocytosis is of some value for a retrospective diagnosis in epidemics. During vaccinia, there is a moderate increase of the white count the first day following the inoculation. By the time the local and constitutional symptoms have reached their height (seventh to tenth day) the leukocyte count falls, at times to normal. Then there ensues a second rise in count. The primary leukocytosis is a polynuclear, the secondary a lymphocytic. Here, too, usually during the second week, Türk's irritation forms and myelocytes are present in small number for a day or so. Finally, there may be a slight increase in the eosinophiles. There is thus a striking similarity in the leukocyte picture of variola and vaccinia, suggesting their identity.

A Study of Protein Metabolism in Experimental Pancreatic Diabetes.—A. GALAMBOS and B. TAUSZ (*Ztschr. f. klin. Med.*, 1914, lxxx, 381) in a previous communication showed, contrary to the generally accepted view of the time, that hyperamino-suria occurs not exclusively in cases with impaired liver function, but also in cases of disturbance of the internal secretion of the pancreas (diabetes). Indeed, the most extreme grade of hyperamino-suria they encountered (17 per cent.) was in a diabetic with acidosis. In mild cases of diabetes on the other hand, normal values for amino-acids in the urine may be found. In diseases with increased protein catabolism such as cancer, leukemia, most febrile infections, there is a tendency to a more or less marked hyperamino-suria though it is not constant. Their clinical findings, the authors have attempted to reproduce experimentally. They reason

that if hyperaminoisuria occurred after complete removal of the pancreas but was absent after ligation of the pancreatic duct, this would practically prove that the determining factor was the internal secretion of the pancreas. The experiments, therefore, were conducted on this basis. Dogs were used. They were placed on a standard diet and the ammonia, total nitrogen and amino-acids of the urine were determined during a control period of three to eight days before the animals were operated upon. The authors found that the results conformed to what they expected. The catabolism of protein to its normal end products requires the internal secretion of the pancreas. An insufficiency of this secretion leads to hyperaminoisuria. Pancreatic glycosuria and hyperaminoisuria, they look upon as analogous phenomena. Diseases of the liver and acute infections may be accompanied by hyperaminoisuria, just as alimentary hyperglycemia or glycosuria may be associated with them. It is possible that both metabolic anomalies have a common cause, and it is quite possible that this is to be sought in a decrease or loss of the internal secretion of the pancreas.

On the Vaccine Treatment of Typhoid Fever.—A. V. KORANYI (*Wien. klin. Wchnschr.*, 1915, xxviii, 85) has recently treated a small series of typhoid fever patients with Ichikawa's vaccine with such good results that he considers a report advisable. The vaccine was prepared after the method of Ichikawa. Ten loopfuls (oese) of typhoid bacilli were added to 10 c.c. of serum from a convalescent, incubated five to six hours; washed and then shaken in 100 c.c. normal salt solution containing 0.3 per cent. phenol. Experiments showed that 0.4 to 0.5 c.c. of this preparation is the proper dose. After establishing this point, the author treated twenty-four cases of typhoid fever with the vaccine. No deaths occurred. Following vaccination; a more or less severe reaction occurred, chill, rapid rise of temperature, followed by a fall almost to normal or even subnormal, with free perspiration. The reaction was very well borne. The further course of the disease may be divided into four groupings: (1) critical fall of temperature with recovery (seven cases); (2) a fall of temperature by short lysis (three cases); (3) marked improvement (seven cases); (4) no appreciable betterment (seven cases). The earlier in the disease the vaccine is given the better appear to be the results. Recurrence may follow abortive cure, but it also yields to vaccination.

Comparative Determination of Blood Sugar by Polarization and Reduction Methods.—C. MAASE and H. TACHAU (*Ztschr. f. klin. Med.*, 1914, lxxxi, 1) report the results of a comparative study of determination of blood sugar by polarization, by copper reduction (Bertrand) and by silver reduction (Tachau). In twelve cases examined, including three of diabetes, the results of the three methods were practically the same, excepting in one case of diabetes where the polariscopic readings were considerably higher than those obtained by the reduction tests. The reason for the difference, the authors were unable to determine. On the whole the polariscope gave results a trifle higher than the reduction methods; Tachau's method usually gave a slightly higher result than Bertrand's. Interesting results are reported after the administration of 100 grams of levulose. As would be expected, the